

Overview of Draft Cadmium Criteria Release for Public Comment 12-07-15

Overview and process

- EPA released the draft updated national recommended aquatic life water quality criteria for cadmium on December 1 (Docket No. **EPA-HQ-OW-2015-0753**)
- EPA is accepting written comments from the public for **60 days** from the date of announcement (through February 1, 2016) in the Federal Register
- The criteria document underwent internal and external peer review and was revised considering those peer reviews.
 - The External Peer Review Report and EPA Response to External Peer Review Comments were released with the document
- EPA will then consider the comments that are submitted, and revise and publish the final criteria document in late spring 2016.
- Once finalized, EPA's water quality criteria for cadmium will provide recommendations to states and tribes authorized to establish water quality standards under the Clean Water Act.

Criteria values overview

- The 2015 draft criteria update revises acute and chronic freshwater and estuarine/marine criteria. Values were last updated in 2001.
- Criteria revisions are based on new toxicity test data, with no major changes in scientific approach.
 - The draft 2015 updated criteria reflect data for 70 new species and 49 new genera
 - Hardness remains the primary driver for the freshwater criteria
- Criteria values are very similar to what they were in 2001, indicating previous criteria were robust

More detail on the Values, in case needed

Freshwater values

- Revised freshwater criteria slightly decrease in stringency (higher concentration values) compared to 2001
- Value is changed primarily based on additional toxicity data
- Fish are drivers of the freshwater acute criterion value; invertebrates are drivers of chronic criterion
- As in the 2001 criteria, the draft 2015 freshwater acute criterion was lowered to protect the commercially and recreationally important rainbow trout. Protective of salmonids thus also.

Saltwater

- Revised estuarine/marine criteria slightly increase in stringency compared to 2001.
- The draft 2015 estuarine/marine acute c and chronic criteria for dissolved cadmium is slightly lower (more stringent) than the 2001 acute criterion primarily due to the addition of new toxicity studies for sensitive genera for acute value, and due the consideration of more species in the chronic criterion ACR development for the chronic value.

Table 1. 2015 updated criteria values compared to the existing 2001 current criteria, based on a hardness equation for freshwater

Waterbody Type	2015 AWQC Update (dissolved cadmium in µg/L)		2001 AWQC Update (dissolved cadmium in µg/L)	
	Acute (1-hour)	Chronic (4-day)	Acute (1-day)	Chronic (4-day)
Freshwater (Total Hardness = 100 mg/L as CaCO ₃)	2.1 ^a	0.73	2.0 ^a	0.25
Estuarine/marine	35	8.3	40	8.8

^a Lowered to protect the commercially and recreationally important rainbow trout, as per EPA Guidelines (1985).

Table 2. Number of tested aquatic species included in criteria derivation over time

	Freshwater Acute	Freshwater Chronic	Estuarine/Marine Acute	Estuarine/Marine Chronic
2001	65	21	61	2
2015	101	27	94	2

i. Table 3. Overview of Milestones

Action	Date
Draft Cadmium Criteria Released for 60-Day Public Comment Period (FRN)	11/30/15 – 1/30/16
Region 10 initiates discussions with Services	12/1/15
Release of Final Updated Cadmium Criteria (FRN)	3/30/16
Proposed Rulemaking for Oregon	3/31/16

More details, just fyi

1. Freshwater Criteria Development

A. Acute

- i. Fish are drivers of the freshwater acute criterion value
- ii. 75 freshwater genera for acute toxicity (compared to 55 in 2001)
 - a. 14 of 20 added genera are invertebrates
- iii. Acute criterion was lowered to be protective of the commercially and recreationally important rainbow trout

B. Chronic

- i. Invertebrates are drivers of chronic value
- ii. 20 freshwater genera for chronic toxicity (compared to 16 in 2001)
 - b. 3 of 4 newly-added genera are invertebrates

2. Estuarine/Marine Criteria Development

A. Acute

- i. 79 estuarine/marine genera for acute toxicity (compared to 54 in 2001)
- ii. 20 of 24 added genera are invertebrates
- iii. Three invertebrates and striped bass (*Morone saxatilis*) are drivers of acute criterion, with new data for moon jellyfish (*Aurelia aurita*)

B. Chronic

- ii. No new chronic toxicity data available since 2001
- iii. This is the only criteria category for which there was insufficient data to develop a sensitivity distribution; thus the value is based on a ratio of acute-to-chronic toxicity
- iv. Estuarine/marine chronic criterion decreased from 8.8 µg/L to 8.3 µg/L based primarily on an increase in the acute-chronic ratio